# CMDR Monograph Series No. - 24

# INFLATION AND ECONOMIC GROWTH: THE INDIAN EXPERIENCE

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### I. Introduction

Economic growth with price stability had remained one of the uncontested objectives of economic planning in India. In its latest report on Currency and Finance (1996-97), the Reserve Bank of India has asserted that "Price stability has been the main gain of the economic situation so far: this should help improve India's competitiveness, reduce economic hardships on the poor and promote growth".

Preachers of anti-inflationary Policy (IMF's adjustment programmes emphasise this aspect of Economic Management) seem to have changed their stand of late. Dr.Michael Sarel in this recent working paper (IMF working paper 97/152) has observed that "economic growth is strongest in countries where inflation is about 8 percent and that reducing it below that rate weakens economic performance".

This raises a few questions: Has the objective of price stability (Controlling the annual rate of inflation) lost its relevance? Inflation and economic growth are not the two exclusive categories. They are interdependent. What is the association between economic growth and inflation on the one hand and that between inflation and economic growth on the other? How has the price level tended to behave during the periods of (a) negative economicgrowth; (b) low economic growth and (d) high economic

growth? Similarly, what has been our growth experience during the periods of (a) Zero inflation rate; (b) negative inflation rate; (c) single digit inflation rate and (d) double digit inflation rate?

Considering inflation as a purely monetary phenomenon, the goal of price Stability may be interpreted as "thatrate of expansion of money supply which should be roughly equal to the rate of increase of output - a couple of per cent points more, but not much more". (CMIE, Bombay, 1990). What do the Indian data suggest in this respect? Has the growth rate turned out to be the `strongest' when the two rates coverage rather than diverge? What rate of economic growth can be taken as the `strongest'? One that trickles down or one associated with sound macro economic management? i.e. `strongest' in quantitative or qualitative terms or both?

We intend to examine the questions regarding inflation and economic growth during the plan period so far. The paper runs into the following three sections. Association between inflation and economic growth and vice-versa is examined in section II. Section III deals with the question of the interpretation of the term 'strongest' economic growth in the light of our recent growth and inflation experience. Section IV presents in brief concluding remarks.

Three alternative measures of the general price level give an idea of three measures of

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inflation - (a) wholesale price Index (WPI), (b) Gross Domestic product (GDP) implicit price deflator and (c) Consumer price Index (CPI). We confine to the first two measures - WPI and GDP price deflator - for which the comparable time-series for the period 1950-51 - 1996-97 are available. CPI is for three different categories of workers industrial workers (IW), Urban non-manual employees (UNME) and agricultural workers (ALW) and with different base years. In fact, the CPI is obvious choice when the issues related to welfare are to be deliverated. We recourse to the trend in CPI to a limited extent while studying the term 'strongest' economic growth in the next section (III).

Association between inflation and economic growth in terms of average annual changes in (1) WPI, (2) implicit price deflator for GDP and GDP at factor cost is presented in Table 1 above.

Raj Krishna's 'Hindu rate of economic growth' of 3.5 percent per annum during 1950-51 to 1979-80 was associated with 5 to 5.7 percent inflation rate. Alongwith the escalation in the inflation rate to 8 to 8.5 percent during the decade of 1980s, the growth rate 500 propelled to 5.9 percent. During the period of economic reforms so far nearly double digit inflation has brought down the growth rate marginally to 5.7 percent. Excluding the quick estimate

Tablele-1

### Inflation And Economic Growth

Period	Wholesale	Implicit	GDP at Factor
	Price Index	GDP Deflator	Cost
	(WPI)	(1980-81=100)	(1980-81 prices)
1950-51			
to	5.7	5.3	3.5
1979-80			
1980-81			
to	8.0	8.5	5.9
1989-90			
1990-91			
to	9.6	9.7	5.7
1996-97			
1950-61			
to	6.8	6.7	4.4
1996-97			

of GDP for the year 1996-97, the average growth rate comes down further to 5.5 percent. Double digit inflation rate has a tendency to pull down the growth rate. Further proof of this tendency is found in Table - 2 where the average annual changes in WPI, implicit GDP deflator and GDP at factor cost are classified into the four periods of negative, zero, single and double digit inflation rates.

From Table 2 it is observed that the growth rate has hovered around 4 to 5 percent when the inflation rate ranges from negative and zero to single digit. On the other hand, the growth slumped to around 3 to 4 percent when the inflation rate was double digit. Figures in <u>Table - 3</u> reveal the relationship between economic growth and inflation.

Table-2

## WPI, Implicit GDP Deflator and GDP at Factor Cost 1950-51 to 1996-97

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Inflation	WPI	Implicit	GDP at
Rate	(1981-82=100)	GDP Deflator	Factor Cost
		(1980-81=100)	(1980-81 prices)
Negative	-5.2(5)		4.2
		-4-4(4)	4.7
Zero	0(2)	-	4.3
		-	-
Single digit	5.7(26)	-	4.7
		6.0(32)	5.0
Double digit	14.3(13)	-	3.8
		11.0(10)	2.6

Table-3

# Association Between Economic growth and Inflation (1950-51 to 1996-97)

Nature of Growth	Real GDP	Ínflation	Implicit
Rate	growth Rate	Rate (WPI)	GDP
			Deflator
Nagative growth	-2.6(4)	9.4	9.4
Low growth (0.0 to 2.4%)	1.5 (8)	9.3	8.3
Moderate growth (2.5-4.91 %)	3.7 (11)	3.5	4.2
High growth (5%and above)	6.9(23)	7.6	6.5
Overall growth	4.4 (46)	6.8	6.5

Both during the years of negative and low growth inflation rate obviously was slightly above 8 to 9 percent. During the years of moderate growth (3.9 percent per year), the inflation rate was in the vicinity of 3.5 to 4.2 percent. Only during the twenty three years of high growth of almost 7 percent, the rate of inflation ranged between 6.5 and 7.6 percent. For the entire plan period, the growth rate of 4.4 percent on average was found to be associated with below 7 percent inflation rate. In this way, the highest growth rate of 7 percent was achieved when the inflation rate (WPI) was 7.6 percent.

Let us probe a little bit more into this period of 23 years of high economic growth. Sixteen out of 23 years of high growth were years of single digit inflation -5.5 percent per annum (WPI). The growth rate during these 16 years was 7 percent per year. As against this, during the remaining seven year period, the lower rate of growth of 6.6 percent was associated with 12.3 percent inflation rate. Twelve years out of a total of twenty three years of high growth formed a part of the first thirty years of planning (1950-51 to 1979-80). The growth rate of 6.7 percent was associated with 5.5 percent inflation rate. The remaining eleven years belonged to the period 1980-81 to 1996-97. The growth rate of 7.1 percent was marginally higher relatively but the inflation rate of 9.4 percent was substantially higher-even higher than the one observed by Sarel (Table-4). Since double digit inflation pulls down the growth rate it is not worth. And 9 percent inflation rate, being higher than about 8 percent inflation rate producing the strongest economic growth is also out of question (Table - 4).

Table-4

Economic Growth and Inflation (WPI) during 23 year of

High Economic Growth

(Percent)

		(i cicciii)
Period	Inflation Rate	Economic
		Growth Rate
16 years of single digit Inflation	5.5	7
7 years of Double digit Inflation	12.3	6.6
12 years of 1950-51 to 1980-81	5.5	6.7
11 years of 1980-81		
to 1996-97	9.4	7.1
All 23 years	7.6	6.9

At this juncture let us introduce money considering inflation as a monetary phenomenon. The growth of money supply can be taken as a reasonably good indicator of the increase in effective monetary demand for goods and services, whereas the increase in real national income reflects an increase in aggregate supply. It is obvious that any variation between the two exerts pressure on prices. In this context, to ensure price stability, the two quantities should by and large expand at the same rate. However, this is more an exception rather than a rule. This implies that the actual inflation rate and the one given by the movement of the aggregate demand and supply are bound to differ. We may term the latter the 'estimated' inflation rate.

What is the extent of convergence and divergence between the actual inflation rate (WPI) and the estimated inflation rate? What does the growth rate display together with the variation in these two inflation rates?

During the period 1960-61 to 1988-89, money supply grew at 11.8 percent (compound annual rate of growth) and real national income at 3.8 percent, giving an inflation rate of 8 percent annually. The actual three inflation rates (a) money

inflation given by the index of money supply - the index of real nation income x 100; (b) national income deflator and (c) consumer price index moved in the range of 7.5 percent to 7.7 percent - very close to the estimated rate of 8 percent. (Table 18.3 Mechanics of Price in Inflation: 1960-61 to 1989-90 - 'Basic Statistics Relating to the Indian Economy' - Vol.I, All India, August 1990, CMIE, Bombay). But the growth rate was far below the perspective target of 5 percent growth rate.

Three year moving averages for real GDP growth, inflation (WPI) and money supply growth for the 25 year period covering the full decades of 70s and 80s and the first five years of 1990s given by C.Rangrajan ('Development, Inflation and Monetary Policy' in 'India's Economic Reforms and Development' (Eds.) I.J.Ahluwalia and I.M.D. Little, 1998) lead us to conclude that given the money supply growth (17 percent on average per year separately for each of the above decades), the acceleration/deceleration in growth rate reduces/raises the inflation rate, indicating some sort of negative relationship between growth and inflation (Table - 5).

Table - 5

Real GDP growth, Inflation and Money Supply

Period	Real GDP	Actual Inflation	Money	Estimated
	Growth	(WPI)	Supply	Inflation
(1)	(2)	(3)	(4)	(4 - 2)
1970s	3.4	9.0	17.2	13.8
1980s	5.4	8.0	17.1	11.7
1990-1 to	4.8	10.3	17.4	12.6

Correlation between inflation -0.50 and growth

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The table also shows that the actual inflation rate has always been lower than the estimated rate given by the imbalance between the growth of output (aggregate supply) and that of money supply (aggregate demand).

The relationship between money supply (M3), economic growth and inflation (WPI) is given below in Table-6 for (1)

1950-51 to 1979-80; (2) 1980-81 to 1989-90; (3) 1990-91 to 1996-97; (4) 1980-81 to 1996-97 and (5) 1950-51 to 1996-97. The said relationship is also studied by classifying the reference period into (1) 19 years of below 5 percent growth, (2) 23 years of growth rate 5 percent and above; (3) 26 years of single digit inflation and (4) 13 years of double digit inflation.

Table - 6

Money Supply, Economic and Inflation

Period Money Supply Real GDP at Estimated **Actual Inflation** Inflation **Factor Cost** (WPI) (2 - 3)(2) (3)(4)(5) 1950-51 to 1979-80 11.1 3.5 7.6 5.7 17.2 1980-81 to 1989-90 5.9 11.3 8.0 1990-91 to 1996-97 15.0 5.7 10.7 9.6 5.8 10.4 8.6 1980-81 to 1996-97 16.2 1950-51 to 1996-97 13.4 4.4 9.0 6.8 19 years of 12.7 2.6 10.1 5.2 below 5% growth 23 years of 5% and 13.5 6.9 6.6 7.6 above Growth 26 years of Single 14.2 4.7 9.5 5.7 Digit Inflation 13 years of Double 14.6 3.8 10.8 14.3 **Digit Inflation** 

It reveals negative as well as positive association between inflation and growth. During the first thirty years of planning 1950-51 to 1979-80), the inflation rate was below 6 percent on average per year and the growth rate was 3.5 percent. The following decade of 1980s saw the inflation rate touching 8 percent and the growth rate accelerating to almost 6 percent with substantial increase in money supply. The

1990s witnessed nearly double digit inflation and marginal reduction in growth rate accompanied by the lower money supply growth. The positive association between inflation, growth and money supply is found between two periods of low (below 5 percent) and high (5 percent and above) growth. Moreover, during the period of high growth the gap between the <u>actual</u> inflation rate (7.6 percent) and the <u>estimated</u> and (6.6

percent) is one of the <u>lowest</u> (1.0 percent). Negative association, on the other hand, is revealed between single and double digit inflation periods when the growth rate of money supply is almost identical.

During all but two nine sub-periods, the estimated inflation rates exceeded the actual inflation rates. The growth rates were below 5 percent in four sub-periods. Situation of this nature indicates tight monetary policy and/or less reliance on foreign capital. During the remaining three sub-periods coinciding with the pre and post-reform periods (1980s, 1990s and 80s and 90s combined), the growth ranged from 5.7 to 5.9 percent though the estimated inflation rate was higher than the actual inflation rate. Money supply growth was in the range of 15 to 17 percent full 4 to 6 percentage points higher than that of 11 percent for the period 1950-51 to 1979-80. As seen earlier, during the twenty-three year period of high growth (6.9 percent), the actual inflation rate of 7.6 percent per annum was higher than the estimated inflation rate of 6.6. The corresponding money supply growth was 13.5 percent per annum. During the thirteen year double digit inflation period, the actual inflation rate was higher by 3.5 percentage points than that of the estimated one and pulled down the growth rate to below 4 percent. It seems the period of high growth (6.9 percent on average per year), characterized by 7.6 percent inflation rate, by the smallest difference between the actual and the estimated inflation rates and by the money supply growth rate of roughly 14 percent, should reemerge on the Indian economic horizon. Which are those years and what about the quality of this growth? Can this period be taken as the appropriate threshold level of inflation, growth and money supply? Have benefits exceeded costs? This takes us to the next section on the interpretation of the term 'strongest' economic growth.

# III Strongest Economic Growth:

Growth rate equal to or higher than the perspective plan target of 5 percent per annum should undoubtedly be the strongest numerically. The strongest growth rate of almost 7 percent was experienced by us during twenty-three out of 46 years of economic planning. 12 out of 23 years of high growth confine to the period 1950-80 characterized by the Hindu rate of growth and virtually the closed and the controlled economy. Next 11 years confine to the most recent 17 years (1980-81 to 1996-97) period characterized by high growth and open and liberalized economy (Table -7). The moot question is: whether the numerically strongest growth rate during the first period of 12 years or during the second period of 11 years is strongest in terms of its (a) 'sustainability' an (b) its 'pull-up' and 'trickle-down' appropriateness.

Table - 7

Real GDP, Inflation and Money Supply during 23 years of High Economic growth (Percent per Annum)

Period	Real GDP at Factor	Inflation (WPI)	Money Supply
	Cost		(M3)
(1)	(2)	(3)	(4)
16 years of single	7.0	5.5	14.0
digit inflation			
7 years of double	6.6	12.3	13.1
digit Inflation			
12 years during	6.7	6.0	11.1
1950-80			
11 years during	7.1	9.4	17.0
1981-1996-97			
All 23 years	6.9	7.6	13.5

Furthermore, two periods - one of 16 years of single digit inflation and another of 12 years during 1950-80 - draw parallel. There is by and large nothing to choose between growth rate and inflation. Incidentally, nine years are common to both these periods. In contrast, only four are common years in two periods of 7 and 12 years, though growth rate is comparable (Table -7)

To begin with let us concentrate on the issue of sustainability of the growth rate. Sustainability definitely has a perspective. The growth experience of the East Asian countries is a case in point. They were able to sustain quite high growth rate for almost two decades. What is the Indian experience in this regard? During the first three decades of planning, no decade has seen consistently high growth (5 percent and above). During fifties, sixties and seventies, three, five and four were years

# of high

growth respectively. Others were the years either negative (4 years), low (7 years) (upto 2.4 percent) or moderate - (6 years) - (2.5 - 4.9 percent) of growth rates - accounting for seventeen years together. The difference in growth rate between twelve years of high growth (6.7 percent) and 17 years of negative, low and moderate growth together (1.5 percent on average) works out to 5.2 percent - the difference of around 80 percent.

The most recent period - 1080-81 to 1996-97 - has observed eleven years of high growth (7.1 percent on average) whereas five and one years respectively were years of moderate and low growth, giving on average 3.4 percent growth rate the difference of 3.7 percent between two growth rates, which in percentage terms

amounts to more than one-half. Even during the decade of 80s - five years were years of high growth (7.8 percent per annum) and the remaining five were years of moderate growth (3.9 percent). The economic reforms period so far has witnessed six years of high growth (6.6 percent per annum) and one year of low (0.8 percent) growth. Thus, our growth experience indicates lack of consistency. We shall see later in this section that a combination of high and moderate growth rates (eg. the decade of eighties) has a far greater welfare (human development) impact than the combination of high and low growth rates (eg. the period 1950-1980) even if economic fundamentals remain sound.

Two periods are comparable in terms of the indicators of growth namely GDP growth rate, sectoral growth rate, rate of growth of real per capita net national product and real per capita final consumption expenditure. The first period of 12 years has not lagged behind significantly the second period of 11 years at least in terms of GDP growth and real PCNNP growth. On the contrary, its growth rates of primary sector and real PFCE are slightly better than those of the second period (Table - 8).

Moreover, 12 year period reflects a greater sustainability than the 11 year period in terms of (a) all the three measures

Table - 7

Real GDP, Inflation and Money Supply during 23 years of High

Economic growth (Percent per Annum)

Period	Real GDP at Factor	Inflation (WPI)	Money Supply
	Cost		(M3)
(1)	(2)	(3)	(4)
16 years of single	7.0	5.5	14.0
digit inflation			
7 years of double	6.6	12.3	13.1
digit Inflation			
12 years during	6.7	6.0	11.1
1950-80			
11 years during	7.1	9.4	17.0
1981-1996-97			
All 23 years	6.9	7.6	13.5

Growth and Economic Fundamentals

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of inflation, (b) foo (c) savings gap and	d a	nd	no	n-t	00	d p	.4.C	es.	,43	0.77	1.24	0.92	0.97	1.74	1.96		1.9	
(c) savings gap and	(a,	) tra	age	e Da	ua	nce		_			•							
	agpn	efici	of GI			(8)	34-55	9-69	34-65	9-70	7-75	3-80	3-80	34-85	26-6	9-95	26-9	
	В		%				to 5	to 5	to 6	to 6	to 7	to 7	to 7	to 8	to 8	5	5 0 6	
							51-52 to 54-55	55-56 to 59-60	60-61 to 64-65	65-66 to 69-70	70-71 to 74-75	75-76 to 79-80	51-52 to 79-80	80-81 to 84-85	85-86 to 89-90	90-91 to 94-95	95-96 to 96-97	
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	Trade	Balance	% of	GDP		(7)	1.5							2.02				
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- 8 nic I		GDP	Deflation		(e)		4.8							9.7				
Table - 8		WPI			(p)		5.9							9.6				
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Table - 8 Growth and Economic Fundamentals		Final Private		Expenditure			3.5							3.4				
⊤ Growth and Eco	Real per Real Per Capita		NNP Consumption			(3) (4)												
⊤ Growth and Eco	Real per	Capita Final Private		Growth Expenditure			4.5 3.5							4.9 3.4				
⊤ Growth and Eco	Real per	Capita Final Private		Expenditure			3.5							3.4				
⊤ Growth and Eco	Real per	Capita Final Private		Growth Expenditure		(3)	5.1 4.5 3.5							6.8 4.9 3.4				
⊤ Growth and Eco	Growth Rate Real per	Capita Final Private		Growth Expenditure			4.5 3.5							4.9 3.4				
⊤ Growth and Eco	Growth Rate Real per	Capita Final Private		(c) Growth Expenditure		(3)	5.1 4.5 3.5							6.8 4.9 3.4				
⊤ Growth and Eco	Growth Rate Real per	Capita Final Private		(b) (c) Growth Expenditure		(3)	7.0 5.1 4.5 3.5							8.0 6.8 4.9 3.4				
⊤ Growth and Eco	Real per	Final Private		(c) Growth Expenditure		(3)	5.1 4.5 3.5							6.8 4.9 3.4				
⊤ Growth and Eco	Sectoral Growth Rate Real per	Primary Secondary Tertiary Capita Final Private		(b) (c) Growth Expenditure		(3)	7.8 7.0 5.1 4.5 3.5		P.A)					6.5 8.0 6.8 4.9 3.4		P.A)		
⊤ Growth and Eco	Growth Rate Real per	Capita Final Private		(b) (c) Growth Expenditure		(3)	7.0 5.1 4.5 3.5	period	(6.7% P.A)					8.0 6.8 4.9 3.4	period	(7.1% P.A)		

Budget deficit in col.8 reveals one interesting fact with respect to economic fundamentals. A quinquennium consisting more years of high growth shows low budget deficit as percentage of GDP and vice versa. During the first three decades of planning budget deficit as a percentage of GDP was less than 1 percent (0.97 percent) as against nearly 2 percent during 80s and 90s so far (Table-8). In this way, relatively speaking growth rate during 12 year period was more sustainable since fundamentals of the economy remained sound. Thus, the growth rate of a little above 6.5 percent per annum and the inflation rate of around 6 percent (WPI) appears to be the appropriate level of inflation. This is the strongest growth rate numerically. It has not inflicted heavy costs on the economy by jeopardizing macro economic fundamentals. But what about the quality of this growth in terms of its trickleup (pull-up) and trickle-down adequacy? The period 1953-54 to 1977-78 covers 24 years of the first three decades of planning. Out of these twenty-four years 11 years were of high growth whereas the remaining years were of low and negative growth. During this period poverty ratio (head count ratio) according to World Bank estimate fell by 14.3 percent from 56.1 in 1953-54 to 48.1 in 1977-78. The next period from 1977-78 to 1987-88 consists of 4 and 6 years of high and moderate growth respectively. The decline in poverty ratio was of the order of 20 percent. The

modified expert group estimate shows a 24 percent decline in poverty ratio during this period (1977-78-1987-88). Tendulkar's poverty ratio estimate separately for rural and urban areas tells the similar story.

Two factors offer an explanation for the observed outcome: - (1) A higher and more stable trend rate of agricultural growth in the 1980s. (2) The impact of the stepped up growth rate of the 1980s contributed in a large measure to the greater effectiveness of government action (Tendulkar, 1998).(Table - 10 to be inserted)

Taking 1990-91 as the base, the year immediately preceding the initiation of the process of economic reforms, the rural poverty ratio was higher in all the years (1991 - 93 - 94); urban poverty ratio was higher in three years. The trickle - down effect seems to have slackened. The reasons are not far to seek. Higher relative inflation, relative decline in the rate of growth of primary sector, (3.8 percent per annum) and slow down of the average annual rate of growth of per capita private final consumption expenditure (2.2 percent per annum) without any perceptible improvement in the soundness of economic fundamentals.

Three scenarios have emerged from our analysis of inflation and economic growth so far.

**First, Low-cost Low-benefit Scenario:** Years of high economic growth when

combined with negative and low years of growth, though costs in terms of inflation and macro-economic imbalances are low or within manageable limits, benefits in terms of trickle-up and trickle-down effects of growth are highly inadequate. This again points to the importance of consistently high growth. This was our experience during the first thirty years of planning.

# Second, High-cost High-benefit Scenario:

Years of high economic growth when combined with moderate years of growth and around 8 percent inflation rate yielded large benefits but at high costs in terms of severe economic crisis. This is the story of our growth experience during the eighties.

# And third High-cost Low-benefit Scenario:

The Post-reform period depicts a scenario of high costs- almost double digit inflation, economic fundamentals not yet sound and widening rural - urban poverty gap - which will have unfavourable long-term welfare effects and thus be reducing the benefit impact of high growth.

None of these scenarios serves our purpose. A preferable scenario will be one which gives a <u>long-term</u> high growth associated with inflation rate in the range of 6 to around 8 percent. High growth rate for at least a decade at a stretch will have adequate

trickle-down and pull-up impact (high benefits) with low costs in terms of soundness of macro-economic fundamentals. Inflation below 5 percent and close to double digit pulls down the growth rate. Thus, the discussion on the issue of the trade-off between inflation and growth should ideally be between inflation and consistently high long-term growth rate. This is the sum and substance of our whole exercise in this article.

### IV

# Summing up:

The finding of IMF study that "Economic growth is strongest in countries where inflation rate is about eight percent and reducing it below that rate weakens economic performance" is too simplistic a proposition.

In the context of a country like India, the question of trade-off between inflation and growth has different dimensions and calls for a perspective approach. We have before us almost five decades of growth and inflation experience. To have a complete view of the strongest economic growth both quantitatively and qualitatively, it would be preferable to resort to as many permutations and combinations as possible of growth, inflation and money supply by classifying the entire period into sub-periods of growth and inflation (see Tables 1 to 7). Furthermore, in a study of this nature a perspective plan growth target of 5 percent per annum should not be lost sight of.

The relevance of the issue of price stability has to be taken for granted as price rise upto a point promotes growth and beyond reduces it (Tables-1 and 2). Inflation rate upto almost 7 percent is found to be associated with a growth rate of below 5 percent whereas inflation rate close to ten percent and above pulls down the growth rate.

Periods of negative and low growth (upto 2.4 percent annually) has been associated with as high an inflation rate as above 9 percent, whereas the moderate growth (2.5 - 4.9 percent) period has been 4 percent inflation rate. Around 7 percent rate of economic growth was found to be associated with almost 7-8 percent inflation (Table - 3).

Given the money supply growth, the acceleration/deceleration in growth rate reduces/increases the inflation rate (Table-5). The actual inflation rate (WPI) during seventies, eighties and nineties has turned out to be below the estimated inflation rate given by the imbalance between the growth of output (aggregate supply) and that of money supply (aggregate monetary demand). It is contended that the two inflation rates should either coverage or diverge to the minimum to ensure price stability. The minimum divergence of 1 percent between the two rates (actual inflation rate exceeding the estimated one)

was found when the growth rate was nearly 7 percent and money supply 13.5 percent. Difference ranging from 1 - 1.8 percent gives 5 percent and above growth rate. The greater divergence by and large has a tendency to bring down the growth rate (Table-6). Then, this numerically highest growth rate with the smallest divergence between two inflation rates should be taken as the strongest growth rate. Has this growth rate been strongest qualitatively also?

Qualitatively strongest growth rate is one which exhibits trickle-down and trickle-up (pull-up) tendency on the one hand and keeps economic fundamentals in order - on the other. Twenty three years of 7 percent growth rate per annum points to the fact of our maximum capacity to grow at this rate. The disturbing point in this regard is that this high growth period lacks consistency (stability). This period is not a time-series of twenty-three years of high growth. Our growth experience stands contrasted to the one experienced by Asian tigers. In this sense high growth lacking consistency implies a lack of sustainability of high growth regime. Sustainable growth has another connotation also. A high growth is sustainable if micro-economic parameters remain sound. The first twelve years of intermittent high growth during 1950-80 reflects sustainability in this sense though the remaining years were of negative and low growth.

The second eleven year period of

high growth during 1980-81 - 1996-97 with weakened fundamentals lacked sustainability though the remaining years saw moderate rate of growth (2.5 - 4.9 percent). Unfortunately, the 12 year period of high growth with relatively low inflation rate and sound macro-economic balances and seen limited trickle-down impact in terms of trends in poverty ratio probably because of its association with more years of negative and low growth. This low inflation and high growth period depicts low cost - low benefit scenario.

The second scenario of high-cost high-benefit was found during the decade of 1980s - a period of five years each of high and moderate growth. The inflation rate was relatively higher and economic fundamentals were more unsound. But trickle-down and pull-up impact was far more adequate (Table 8 and 9).

The post-reform period (1990-91 - 1996-97) presents the third scenario of high-cost and low-benefit as the trickle-down effect has slackened (Table - 10). None of these scenarios is preferable. Preferable scenario is one with low-cost and high benefits. A pre-condition for such a scenario is consistently long-term high growth let us say at least for a decade. We have observed that a high growth has a greater trickle-up and trickle-down impact and has a tendency to keep the fundamentals within manageable proportion. The search for a threshold or appropriate level of

inflation not hurting economic growth and economic fundamentals presupposes a relatively longer period of consistently high growth than that of intermittent years of high growth experienced by us with limited welfare impact. This is the policy lesson derived from our inflation - economic growth experience till date.

(Appendix table to be inserted)

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